

Heptatonic modes

The heptatonic modes can be considered as 2 groups of 4 notes separated by one second. These groups of 4 notes are called tetrachords, and are characterized by the number and position of their semitones.

- ▶ the main tetrachords have a total interval of one perfect fourth (P4),
- ▶ the augmented tetrachords have an interval of an augmented fourth (A4),
- ▶ the diminished tetrachord has an interval of a diminished fourth (d4 or M3).

Tetrachords are a good way to capture the interval characteristics of the modes and allow to memorize them more easily.

Tetrachords table

Main tetrachords

major minor phrygian harmonic

Augmented tetrachords

lydian minor aug phrygian aug harmonic aug aug #2

Diminished tetrachord

diminished

∨ : semitone

C major scale modes table

The image displays seven rows of musical notation, each representing a mode of the C major scale. Each row consists of two staves of music. The first staff shows the ascending scale, and the second staff shows the descending scale. The modes are labeled as follows:

- Ionian:** Ascending: C-D-E-F-G-A-B; Descending: B-A-G-F-E-D-C.
- Dorian:** Ascending: C-D-E-F-G-A-B; Descending: B-A-G-F-E-D-C.
- Phrygian:** Ascending: C-D-E-F-G-A-B; Descending: B-A-G-F-E-D-C.
- Lydian:** Ascending: C-D-E-F#-G-A-B; Descending: B-A-G-F-E-D-C.
- Mixolydian:** Ascending: C-D-E-F-G-A-B; Descending: B-A-G-F-E-D-C.
- Aeolian:** Ascending: C-D-E-F-G-A-B; Descending: B-A-G-F-E-D-C.
- Locrian:** Ascending: C-D-E-F-G-A-B; Descending: B-A-G-F-E-D-C.

Each mode is represented by a treble clef staff with a key signature of one flat (Bb) and a common time signature. The notes are connected by stems, and the descending scales are marked with a downward-pointing arrowhead. The labels 'major' and 'minor' are placed above the ascending and descending scales respectively.

C melodic minor scale modes table

The image displays seven rows of musical notation, each representing a mode of the C melodic minor scale. Each row consists of a treble clef, a staff with a key signature of one flat (Bb), and two phrases of notes. The first phrase is labeled with a mode name, and the second phrase is labeled with another mode name. Brackets are used to group notes within each phrase.

- Melodic minor:** The first phrase is labeled "minor" and the second "major".
- Dorian $\flat 2$:** The first phrase is labeled "phrygian" and the second "minor".
- Lydian $\sharp 5$:** The first phrase is labeled "lydian" and the second "diminished".
- Lydian $\flat 7$:** The first phrase is labeled "lydian" and the second "minor".
- Mixolydian $\flat 6$:** The first phrase is labeled "major" and the second "phrygian".
- Aeolian $\flat 5$:** The first phrase is labeled "minor" and the second "lydian".
- Superlocrian:** The first phrase is labeled "diminished" and the second "lydian".

C harmonic minor scale modes table

The image displays seven rows of musical notation, each representing a mode of the C harmonic minor scale. Each row consists of a treble clef, a key signature signature, and two scale patterns. The first pattern is labeled 'minor' and the second is labeled with the mode name. Brackets are used to group notes in pairs. The modes and their corresponding scale patterns are:

- Harmonic minor** (no signature): minor (C, D, E, F, G, A, Bb), harmonic (C, D, E, F, G, Ab, B)
- Locrian $\flat 6$** ($\flat 6$): phrygian (C, D \flat , E \flat , F, G, A \flat , B \flat), aug #2 (C, D \flat , E \flat , F, G, A \flat , B)
- Ionian #5** ($\sharp 5$): major (C, D, E, F, G, A, B), diminished (C, D, E, F, G, Ab, B)
- Dorian #4** ($\sharp 4$): minor aug (C, D, E, F, G, Ab, B \sharp), minor (C, D, E, F, G, Ab, B)
- Phrygian $\flat 3$** ($\flat 3$): harmonic (C, D \flat , E \flat , F, G, A \flat , B), phrygian (C, D \flat , E \flat , F, G, Ab, B)
- Lydian #2** ($\sharp 2$): aug #2 (C, D \sharp , E, F, G, A \sharp , B), major (C, D, E, F, G, A, B)
- Superlocrian $\flat 7$** ($\flat 7$): diminished (C, D \flat , E \flat , F \flat , G \flat , A \flat , B \flat), minor aug (C, D \flat , E \flat , F, G, Ab, B \sharp)

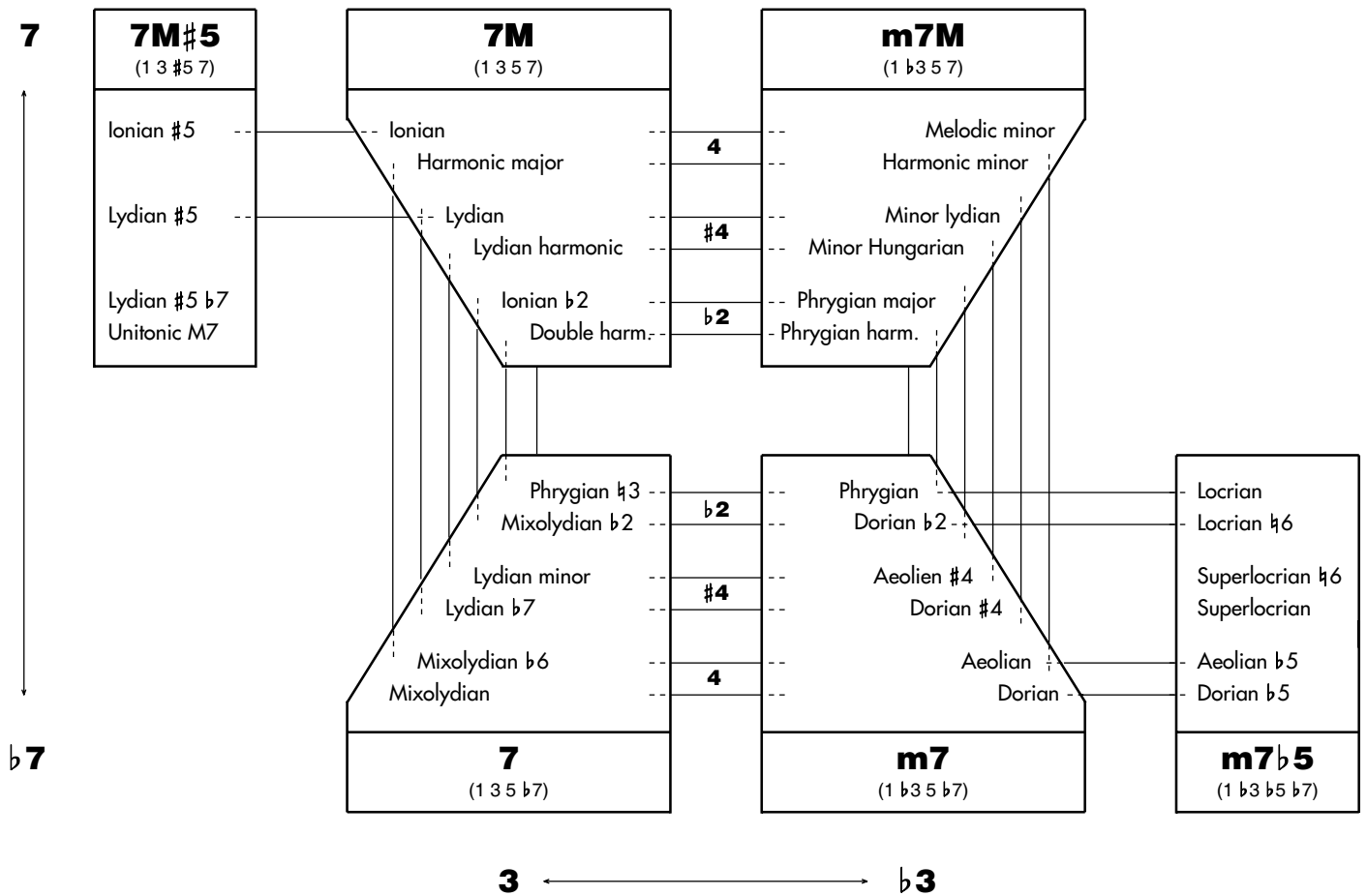
The table below groups by family of related modes that can be used on one of the main tetrads (noted in bold and with their respective numbering). These modes come from the 3 main scales seen previously, and other less used scales.

The 4 central groups are horizontally and vertically symmetrical:

- ▶ horizontally, with modes on the same line differing only by their thirds (3 in the left blocks, $\flat 3$ in the right),
- ▶ vertically aligned modes differing only by their seventh (7 in the blocks on the top, $\flat 7$ in the bottom ones).

The 6 modes are grouped in pairs, each with a characteristic note notated in the center (4, $\sharp 4$ et $\flat 2$). Horizontal and vertical lines help to make the connection, as do the relationships with the secondary blocks at the ends (7M $\sharp 5$ et m7 $\flat 5$).

Heptatonic modes table



The following 2 pages show the complete mode compositions in the table, grouped by family and by pairs, as they appear in the general table.

Major modes numbering**7M**

| | | | | | | | | |
|-----------------|---|----|---|----|---|----|---|---|
| Ionian | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 1 |
| Harmonic major | 1 | 2 | 3 | 4 | 5 | b6 | 7 | 1 |
| Lydian | 1 | 2 | 3 | #4 | 5 | 6 | 7 | 1 |
| Lydian harmonic | 1 | 2 | 3 | #4 | 5 | b6 | 7 | 1 |
| Ionian b2 | 1 | b2 | 3 | 4 | 5 | 6 | 7 | 1 |
| Double harmonic | 1 | b2 | 3 | 4 | 5 | b6 | 7 | 1 |

7

| | | | | | | | | |
|---------------|---|----|---|----|---|----|----|---|
| Mixolydian | 1 | 2 | 3 | 4 | 5 | 6 | b7 | 1 |
| Mixolydian b6 | 1 | 2 | 3 | 4 | 5 | b6 | b7 | 1 |
| Lydian b7 | 1 | 2 | 3 | #4 | 5 | 6 | b7 | 1 |
| Lydian minor | 1 | 2 | 3 | #4 | 5 | b6 | b7 | 1 |
| Mixolydian b2 | 1 | b2 | 3 | 4 | 5 | 6 | b7 | 1 |
| Phrygian b3 | 1 | b2 | 3 | 4 | 5 | b6 | b7 | 1 |

7M#5

| | | | | | | | | |
|--------------------|---|---|---|----|----|----|----|---|
| Ionian #5 | 1 | 2 | 3 | 4 | #5 | 6 | 7 | 1 |
| Lydian #5 | 1 | 2 | 3 | #4 | #5 | 6 | 7 | 1 |
| Lydian #5 b7 | 1 | 2 | 3 | #4 | #5 | 6 | b7 | 1 |
| Unitonic major 7th | 1 | 2 | 3 | #4 | #5 | #6 | 7 | 1 |

Minor modes numbering

| m7M | | | | | | | | |
|-------------------|---|----|----|----|---|----|---|---|
| Melodic minor | 1 | 2 | b3 | 4 | 5 | 6 | 7 | 1 |
| Harmonic minor | 1 | 2 | b3 | 4 | 5 | b6 | 7 | 1 |
| Minor lydian | 1 | 2 | b3 | #4 | 5 | 6 | 7 | 1 |
| Minor Hungarian | 1 | 2 | b3 | #4 | 5 | b6 | 7 | 1 |
| Phrygian major | 1 | b2 | b3 | 4 | 5 | 6 | 7 | 1 |
| Phrygian harmonic | 1 | b2 | b3 | 4 | 5 | b6 | 7 | 1 |

| m7 | | | | | | | | |
|------------|---|----|----|----|---|----|----|---|
| Dorian | 1 | 2 | b3 | 4 | 5 | 6 | b7 | 1 |
| Aeolian | 1 | 2 | b3 | 4 | 5 | b6 | b7 | 1 |
| Dorian #4 | 1 | 2 | b3 | #4 | 5 | 6 | b7 | 1 |
| Aeolian #4 | 1 | 2 | b3 | #4 | 5 | b6 | b7 | 1 |
| Dorian b2 | 1 | b2 | b3 | 4 | 5 | 6 | b7 | 1 |
| Phrygian | 1 | b2 | b3 | 4 | 5 | b6 | b7 | 1 |

| m7b5 | | | | | | | | |
|-------------------------|---|----|----|----|----|----|----|---|
| Locrian | 1 | b2 | b3 | 4 | b5 | b6 | b7 | 1 |
| Locrian b6 | 1 | b2 | b3 | 4 | b5 | 6 | b7 | 1 |
| Dorian b5 | 1 | 2 | b3 | 4 | b5 | 6 | b7 | 1 |
| Aeolian b5 (locrian b2) | 1 | 2 | b3 | 4 | b5 | b6 | b7 | 1 |
| Superlocrian | 1 | b2 | b3 | b4 | b5 | b6 | b7 | 1 |
| Superlocrian b6 | 1 | b2 | b3 | b4 | b5 | 6 | b7 | 1 |